



**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
097012,148	01/22/98	WEAVER	10778-12601

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SIDLEY & AUSTIN
4500 RENAISSANCE TOWER
1201 ELM STREET
DALLAS TX 75270-2197

EXAMINER

STRECKER, G

ART UNIT PAPER NUMBER

2858

DATE MAILED: 01/05/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/012148

Applicant(s)

WEAVER

Examiner

G.R. STRECKER

Group Art Unit

2858

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Response

A SHORTENED STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☐ Responsive to communication(s) filed on _____.
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1-18 is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☒ Claim(s) 11-18 is/are allowed.
- ☒ Claim(s) 1, 2 and 5-10 is/are rejected.
- ☒ Claim(s) 3 and 4 is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
 - ☐ received in Application No. (Series Code/Serial Number) _____.
 - ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s) 2
- ☒ Notice of References Cited, PTO-892
- ☒ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

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- ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

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Office Action Summary

Art Unit: 2858

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 5-7 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by McDaniel. McDaniel discloses (Fig. 2) a metal detector, comprising: a transmit coil 4, a first receive coil 6, a second receive coil 5, a frame 12, and a metal detector circuit (col. 1, lines 12-34). "Overlap", as indicated at page 5, lines 22, 23 of the specification, means that no part of the first receive coil is located above, below or within the transmit coil. In view of such definition, first receive coil 6 is positioned offset from transmit coil 4 such that it does not overlap said transmit coil. With respect to claim 6, although McDaniel's ^{coils} are not rectangular, provision of rectangular coils would be implicit since metal detectors inherently encompass coils of different geometric shapes.

Claims 1, 2, and 5-10 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Morita et al.

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Morita et al discloses (Fig. 4) a detector, comprising: a transmit coil (13), a first receive coil (15₂) offset from said transmit coil, and a second receive coil (15₁) overlapping said transmit coil. The detector would necessarily include a frame for supporting the coils. The arrangement of Morita et al would inherently constitute a metal detector circuit. However, even if such is not the case, it would have been obvious to employ the detector of Morita et al as a metal detector, since inductive transmitter-receiver coil systems are routinely used for such purposes. With respect to claim 9, it would have been obvious to provide a switch for selective coupling of the coils to the processor, as a mere discretionary design alternative, to provide separate monitoring of the signals before comparison and processing, or, to eliminate duplicate detection circuitry. The shape of the coils would involve merely a discretionary design feature.

The Prior Art does not suggest a dual field metal detector arrangement having overlapping and non-overlapping receiver-transmit coil relationships wherein the receive coils are perpendicular to each other, or, the transmit coil is perpendicular to the first receive coil.

Nor does the Prior Art suggest a dual field metal detector having a receive coil and a first transmit coil which is offset from the receive coil and which does not overlap the receive coil and a second transmit coil which overlaps the receive coil.

Fore et al, Karbowski, McClanahan, Mamontov et al (106 and 946), and Weaver et al are made of record to show transmit-receiver coil metal detectors.

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Claims 3 and 4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication should be directed to G.R. Strecker at telephone number (703) 305-4937.

Strecker/dc
December 29, 1998


Gerard Strecker
Primary Examiner